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Kathryn Cerise  
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U.S. Environmental Protection Agency, Region 10  
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Seattle, WA 98101

**VIA ELECTRONIC AND CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

Subject: **NOTICE OF DISPUTE**

Upper Columbia River Remedial Investigation and Feasibility Study – Level of Effort  
Directive (Received via email January 9, 2018)

Dear Ms. Cerise,

Pursuant to Section X, Paragraph 31 of the 2006 Settlement Agreement for Implementation of Remedial Investigation and Feasibility Study (RI/FS) at the Upper Columbia River (UCR) Site (Settlement Agreement), Teck American Incorporated (TAI) hereby notifies the U.S. Environmental Protection Agency (EPA) that it disputes EPA's January 9, 2018 level of effort (LOE) directive to TAI to submit a quality assurance project plan (QAPP) for additional sediments field work before TAI (with EPA oversight) has achieved essential progress on the sediment toxicity line of evidence and the baseline ecological risk assessment (BERA).

The proposed additional fieldwork is a material departure from the risk-based analysis and bioavailability principles of the UCR RI/FS Settlement Agreement and, at this point, would delay rather than expedite the completion of the RI/FS and the Record of Decision. If additional investigatory field work is to occur, it should occur only after sufficient progress has been made on the BERA to determine whether there is actual not just "potential" unacceptable risk, and to identify the drivers of any such risk. Until then, an LOE directive for additional sediments fieldwork is premature.

Further, the LOE is premised on assumptions of "potential risk" to the benthos from sediments based on the presence of slag. The underlying assumption appears to be that anywhere there are coarse depositional sediments, there will be adverse biological effects. This assumption is not supported by the data and bears further examination and resolution before another substantial



field study is undertaken. EPA and TAI have been engaged in technical discussions aimed at informing such resolution, and that process should play out, followed by an informed BERA, before further field work is undertaken.

In addition, the LOE reflects a bias in favor of applying the Washington State sediment management standards to drive action at this Site, in turn, discounting the more appropriate site-specific lines of evidence developed per the BERA Work Plan. Such a bias is inconsistent with the Settlement Agreement, which provides that “all activities performed to conduct the RI/FS . . . shall be performed consistent with applicable EPA guidance, including the Draft Framework for Inorganic Metals Risk Assessment, as it may be modified or finalized by EPA, and, as reflected in the SOW, shall be based upon principles of risk-based analysis, bioavailability, empirical testing, and field confirmation.” (emphasis added).

As provided in EPA’s Framework for Metals Risk Assessment, “the bio accessibility, bioavailability, and bioaccumulation properties of inorganic metals in soil, sediments, and aquatic systems are interrelated and abiotic (e.g., organic carbon) and biotic (e.g., uptake and metabolism).” Further, “To characterize effects or adverse responses to metals, the risk assessor should describe how the effects are elicited, link them to the . . . ecological assessment endpoints, and evaluate how they change with varying exposure levels. It is particularly important, especially for inorganic metals, to confirm that the conditions under which the exposure occurs are consistent with those of the conceptual model. This will ensure that the correct metal species is evaluated for its effects on the populations (including the vulnerable subpopulation) or endpoints of concern, or that appropriate models are used for extrapolating responses among metal species, biota (laboratory to field, or test species to humans), or for varying environments (e.g., metalloregions).”

Here, UCR sediments have been extensively studied, but to date, the drivers of biological effects at the Site, and their implications within the overall ecological context of the Site, are not well understood, primarily because analysis of the existing data is currently underway. Further progress in the ongoing discussions between EPA and TAI on approaches to the toxicity line of evidence, as well as further progress on the BERA, are essential to elucidating these critical considerations. These predicate analyses are critical to determining whether additional field work is in fact necessary, and if so, precisely what it should be. As Table 8-1 of the RI/FS Work Plan plainly indicates, sediment and contaminant transport and fate in the RI/FS studies were dependent on the “presence of unacceptable risk,” and any such determination prior to achieving better understanding of the risk drivers – about which the data raises substantial questions – and prior the benthic baseline ecological risk assessment, is premature.

Rather than embarking on yet another substantial field effort to collect sediments in order to characterize the river with greater resolution based upon assumed “potential risk”, we need to understand what the risk drivers are based on the massive amount of data already available (not just what they are assumed to be) and the presence or absence and magnitude of any such risk,



then use risk management principles to inform the necessity and nature of any further sediments field work. Otherwise, if we proceed with the LOE now, we are likely to either conduct field work that is ultimately unnecessary or wind up conducting two field events when one better-informed event would have sufficed – in either scenario further delaying the RI/FS.

In sum, the LOE is a material departure from the Settlement Agreement because (1) it is inconsistent with EPA's Framework for Metals Risk Assessment and other guidance; and (2) is not based upon principles of risk-based analysis, bioavailability, empirical testing, and field confirmation. Therefore, it is TAI's position that the Study is not a permissible requirement under the Settlement Agreement.

TAI reserves the right to supplement and/or amend this notice.

Sincerely,

**Teck American Incorporated**

A handwritten signature in blue ink that reads "Kris R. McCaig".

Kris R. McCaig  
Manager, Environment and Public Affairs

cc: Christian Baxter, Teck Resources Ltd., Vancouver, B.C. (electronic only)  
Tom Syer, Teck Resources Ltd., Vancouver, B.C. (electronic only)  
Cami Grandinetti, EPA, Seattle, WA (electronic only)  
Sheryl Bilbrey, EPA, Seattle, WA (electronic only)